FIG.1

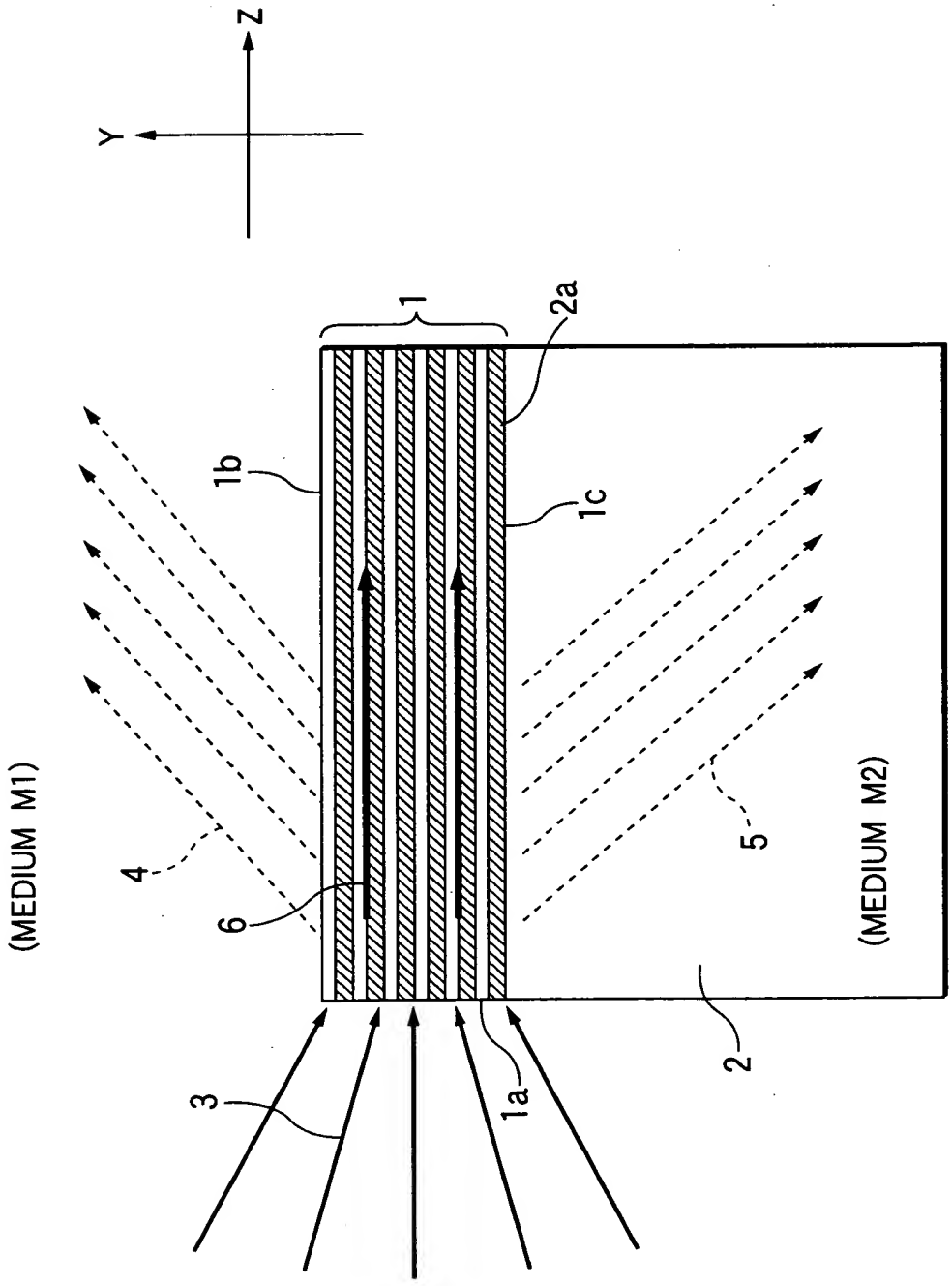


FIG.2

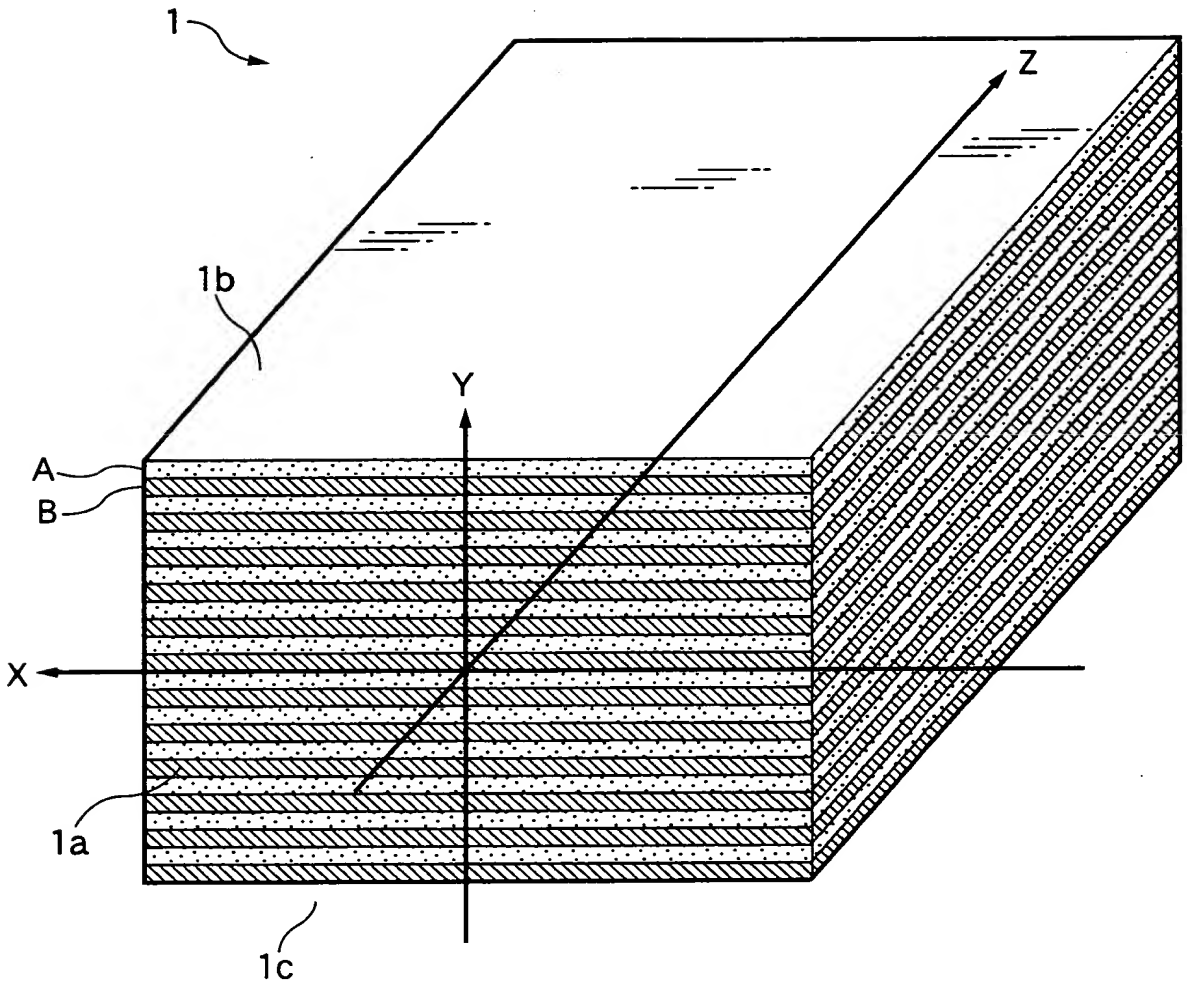


FIG.3

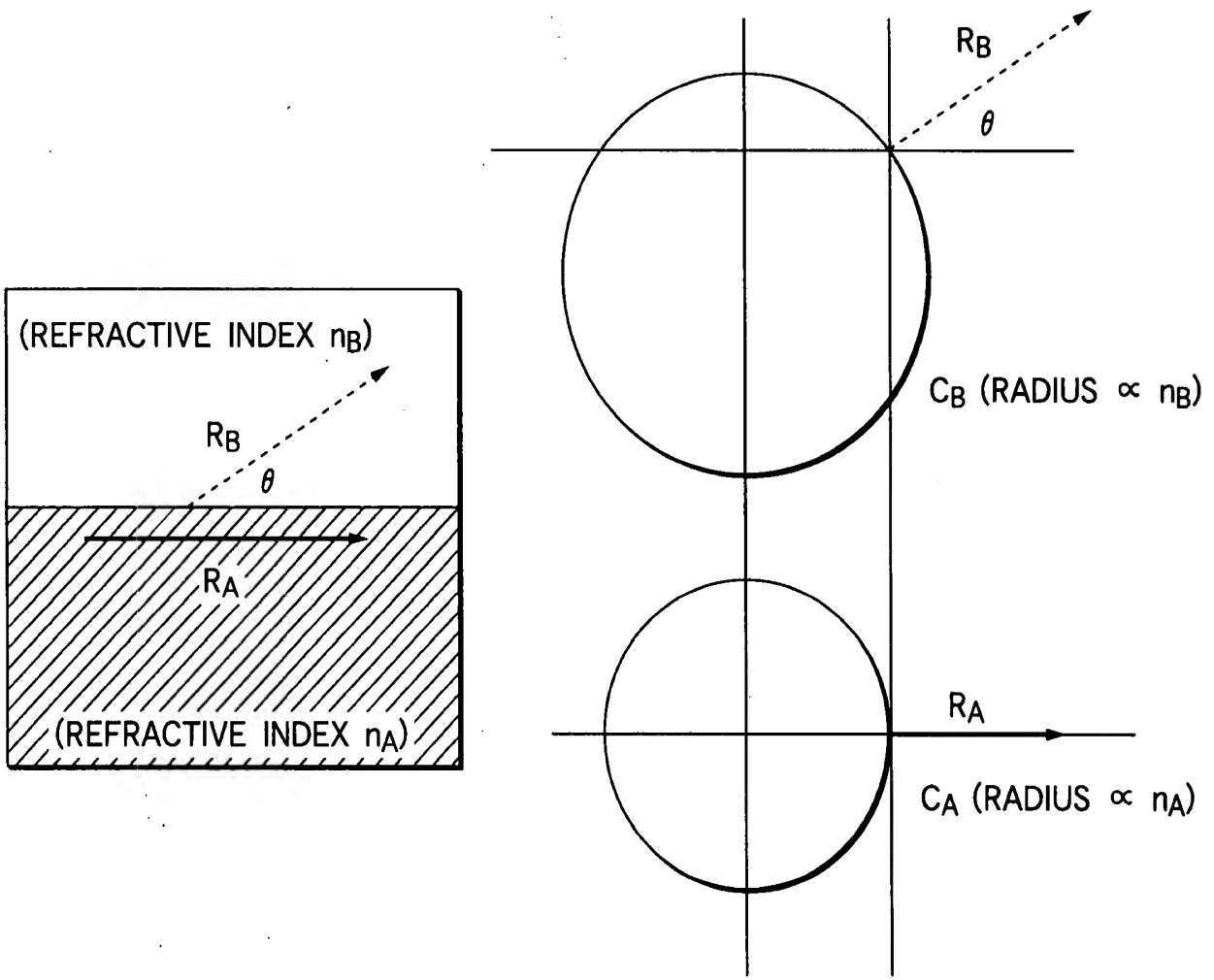
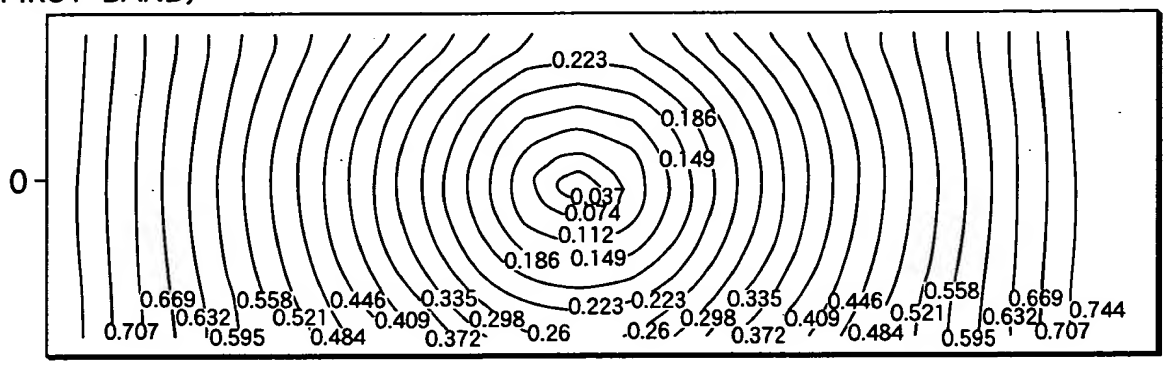
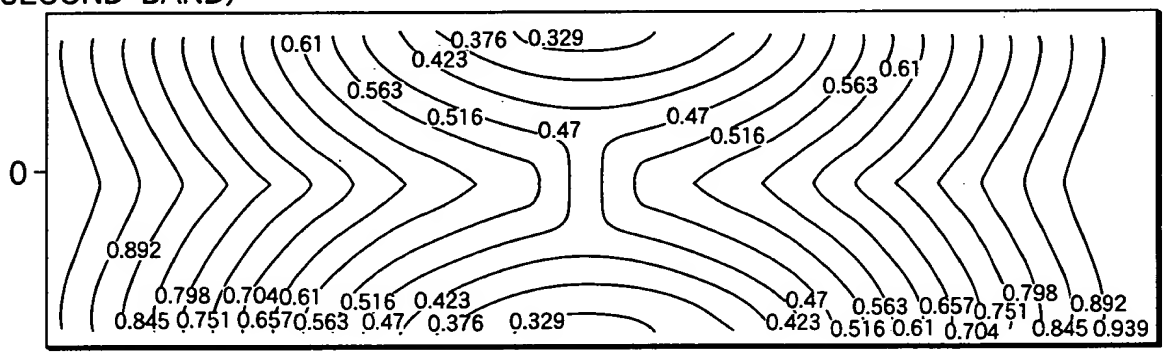

(REFRACTIVE INDEX n_B)
R_B
θ
R_A
(REFRACTIVE INDEX n_A)
R_B
θ
C_B (RADIUS $\propto n_B$)
R_A
C_A (RADIUS $\propto n_A$)

FIG.4

(TH FIRST BAND)



(TH SECOND BAND)



(TH THIRD BAND)

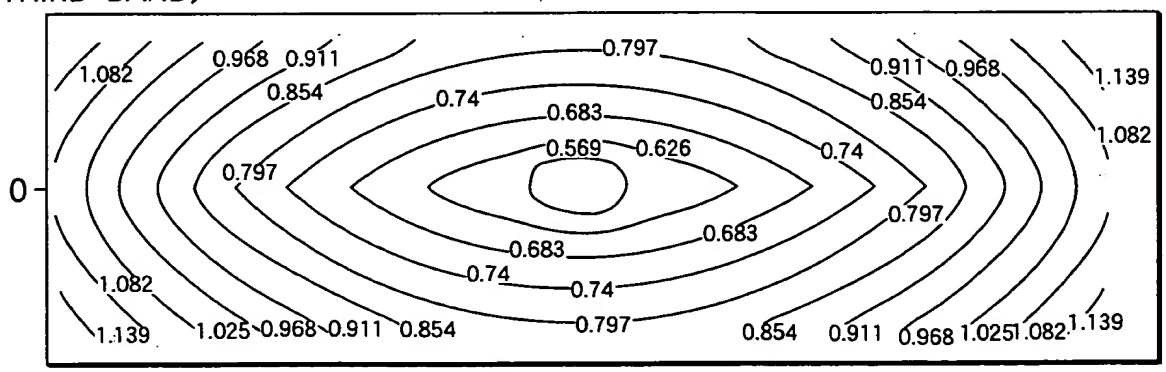
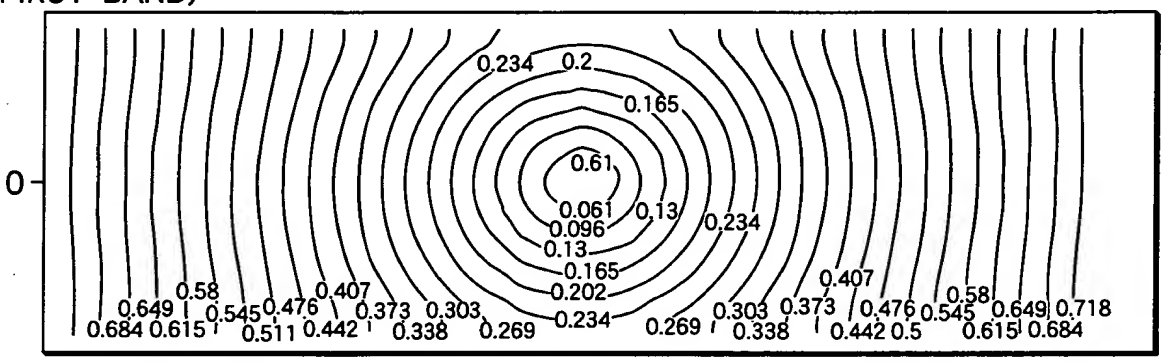
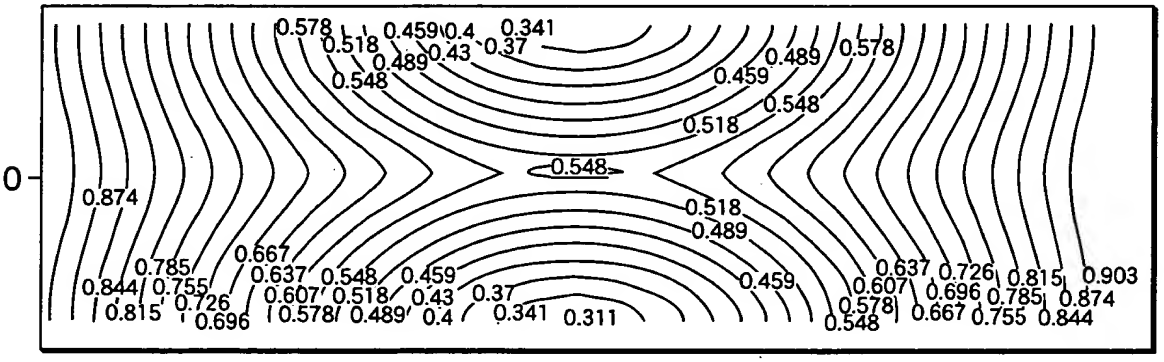


FIG.5

(TE FIRST BAND)



(TE SECOND BAND)



(TE THIRD BAND)

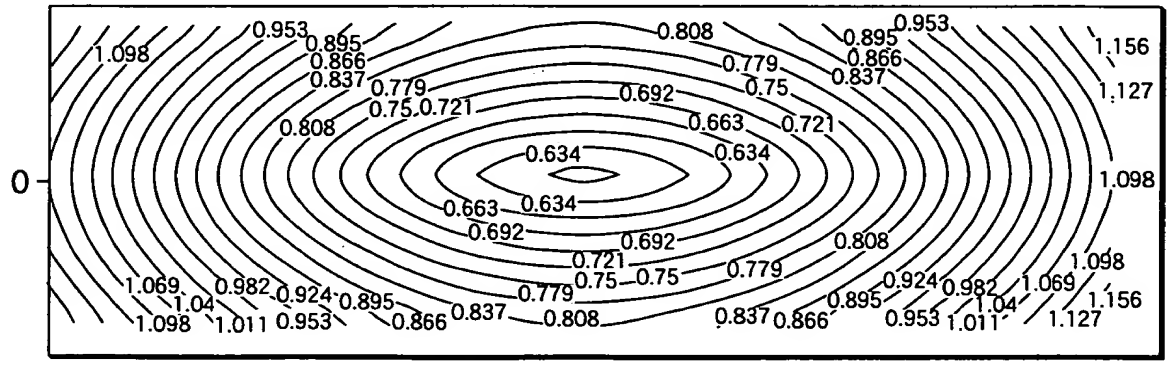


FIG.6

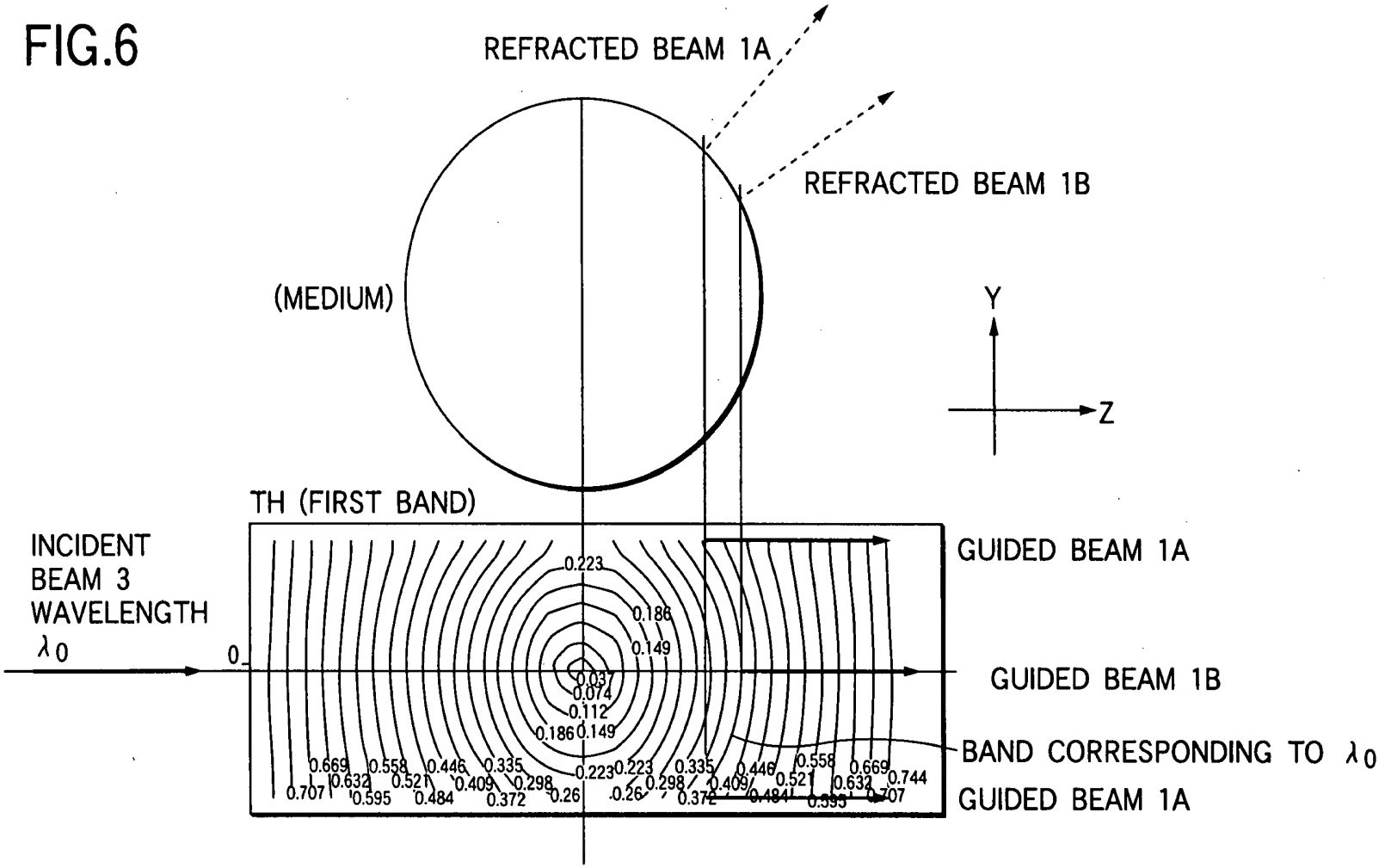

REFRACTED BEAM 1A
REFRACTED BEAM 1B
(MEDIUM)
Y
Z
TH (FIRST BAND)
INCIDENT
BEAM 3
WAVELENGTH
λ0
0
GUIDED BEAM 1A
GUIDED BEAM 1B
BAND CORRESPONDING TO λ0
GUIDED BEAM 1A
0.223
0.186
0.149
0.037
0.074
0.112
0.669
0.632
0.595
0.558
0.521
0.484
0.446
0.409
0.372
0.335
0.298
0.26
0.744
0.707

FIG.7

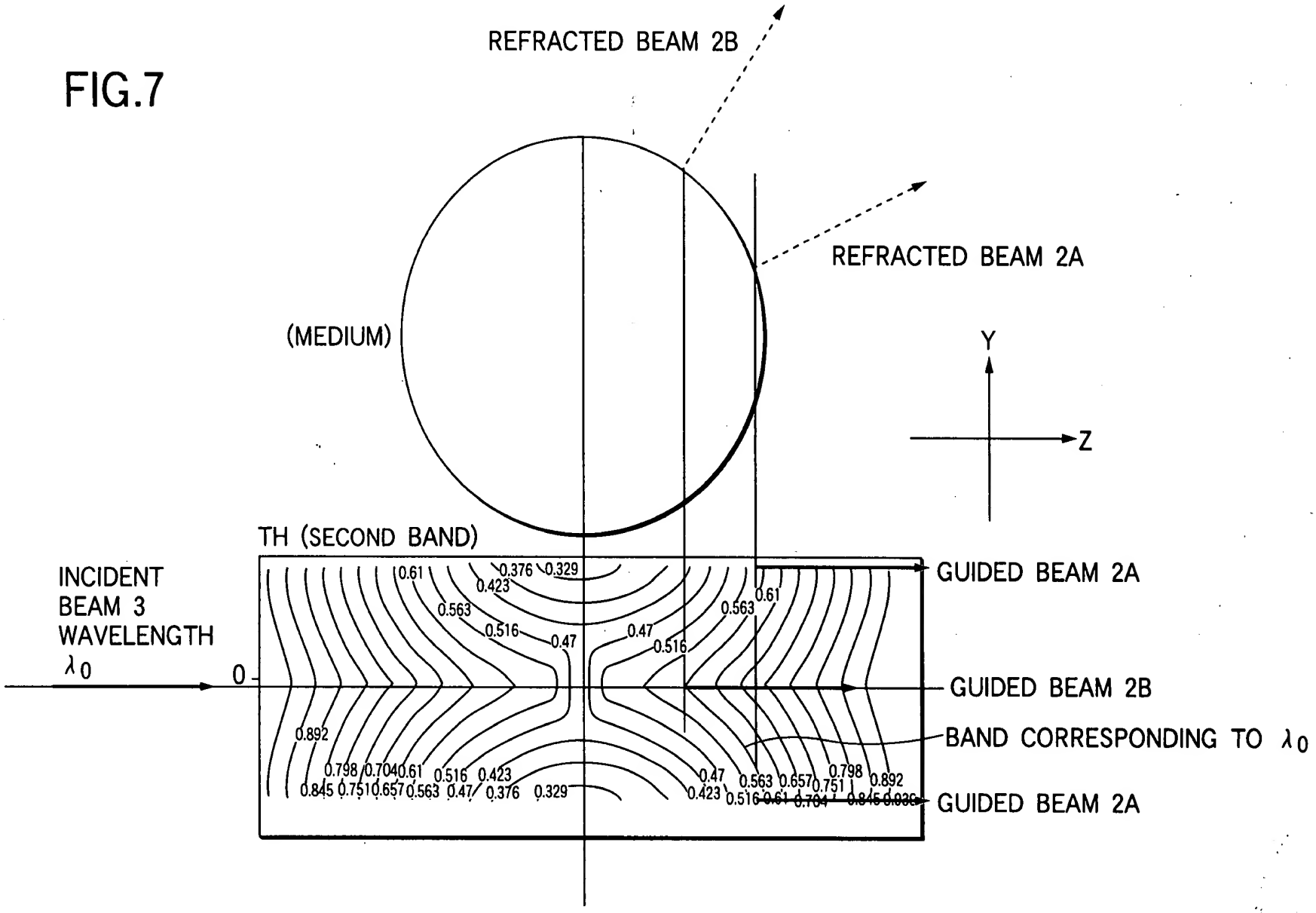


FIG.8

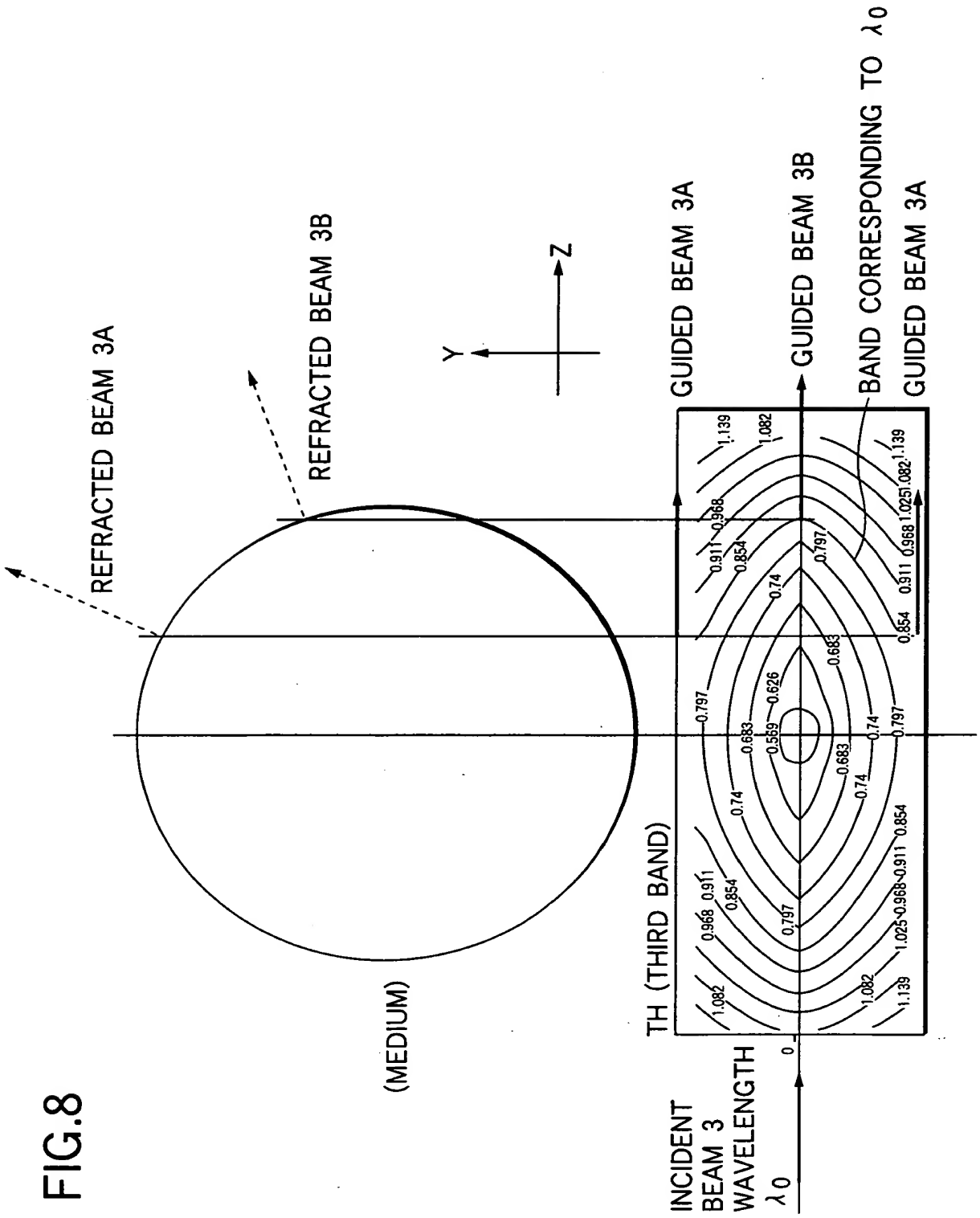

REFRACTED BEAM 3A
REFRACTED BEAM 3B
(MEDIUM)
Y
Z
GUIDED BEAM 3A
GUIDED BEAM 3B
BAND CORRESPONDING TO λ0
GUIDED BEAM 3A
TH (THIRD BAND)
INCIDENT BEAM 3 WAVELENGTH λ0
0
0.626
0.559
0.683
0.74
0.797
0.854
0.911
0.968
1.025
1.082
1.139

FIG.9

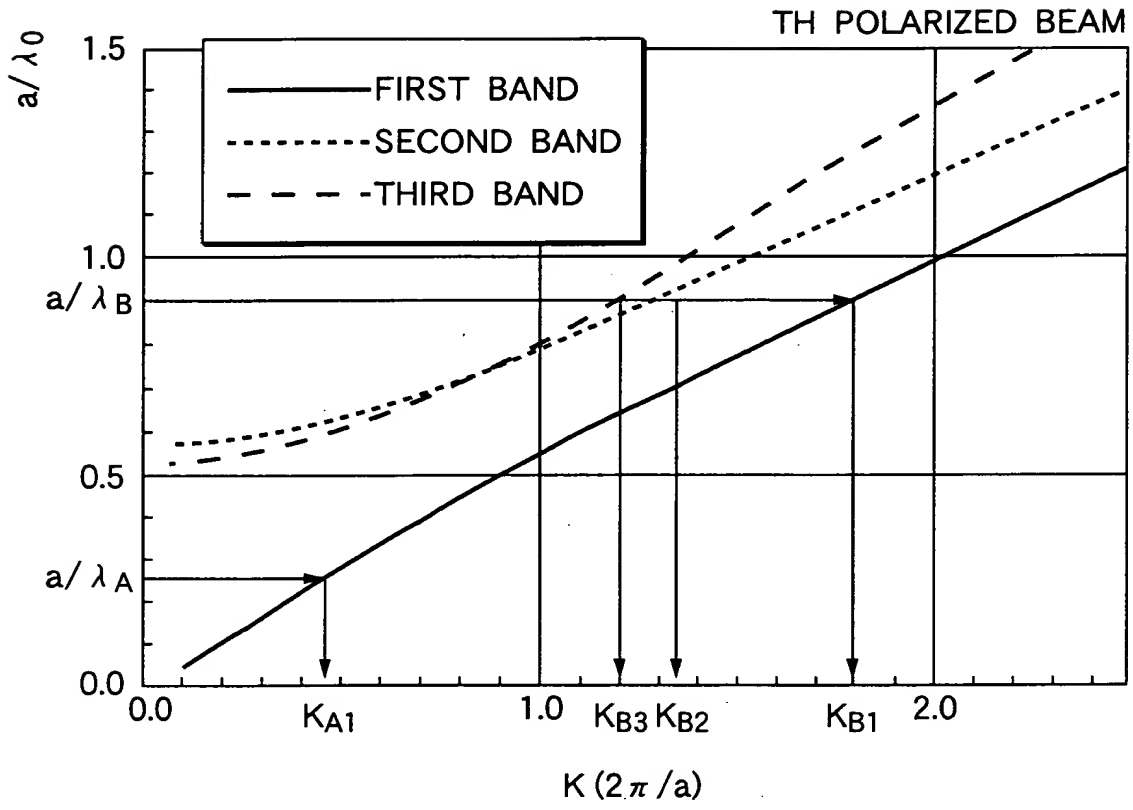

TH POLARIZED BEAM
a/λ0
1.5
1.0
a/λB
0.5
a/λA
0.0
FIRST BAND
SECOND BAND
-THIRD BAND
0.0
KA1
1.0
KB3
KB2
KB1
2.0
K (2π/a)

FIG.10

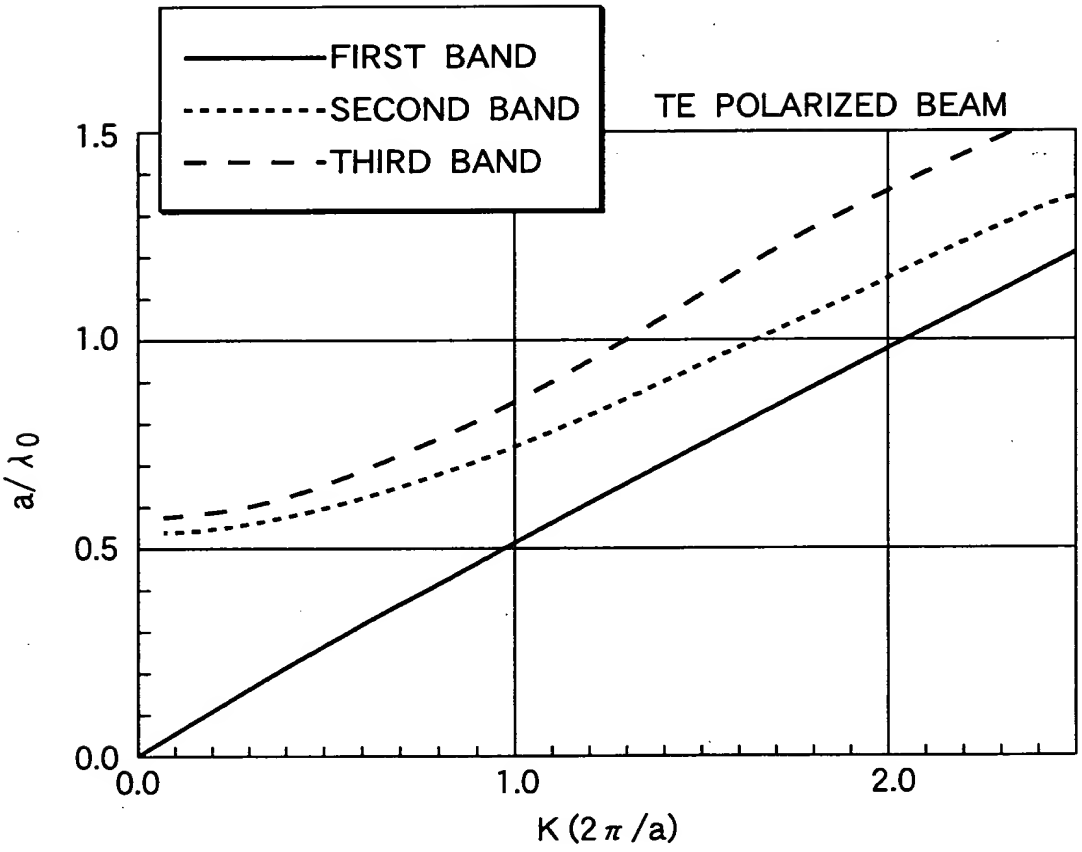


FIG.11

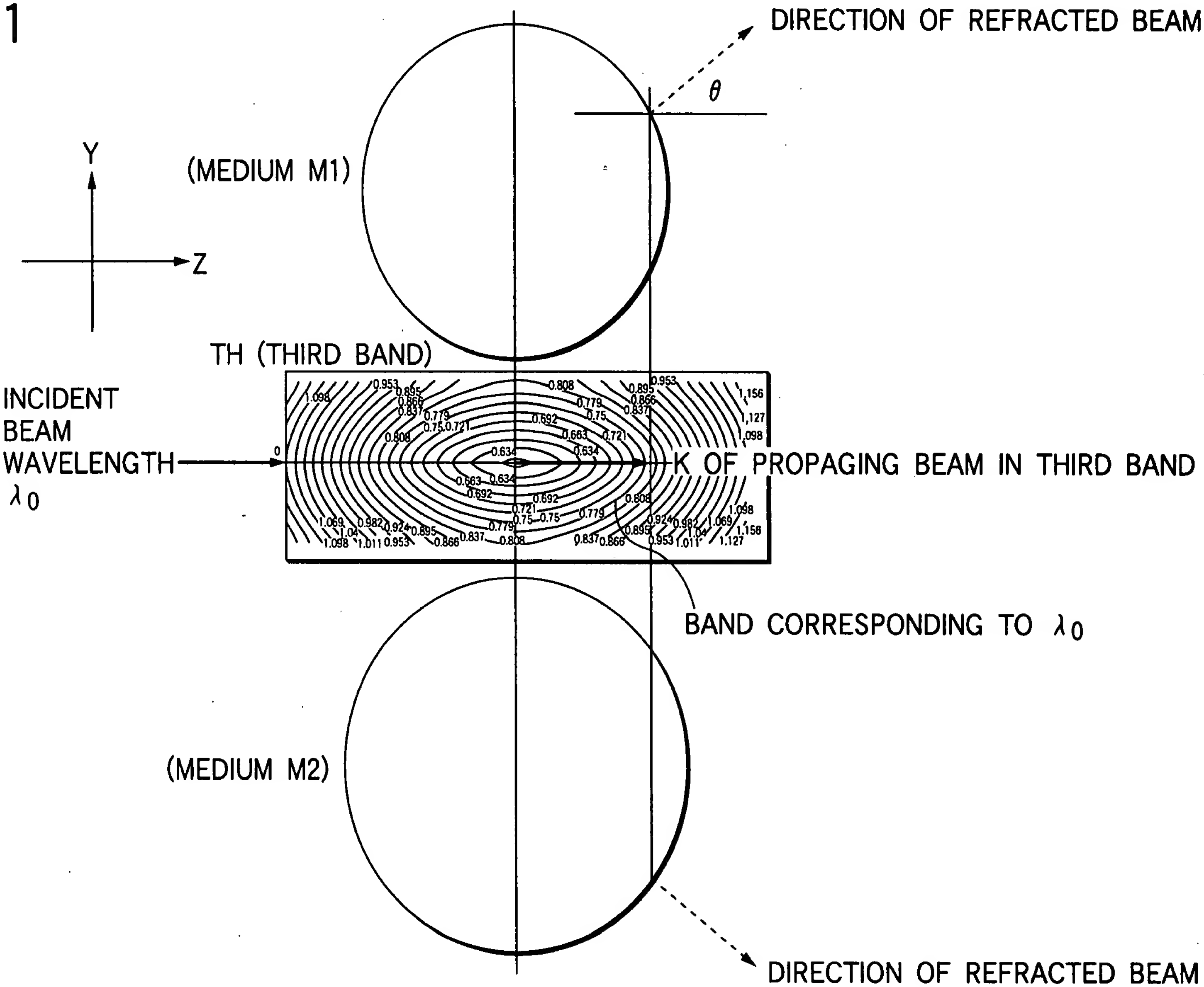

DIRECTION OF REFRACTED BEAM
θ
Y
Z
(MEDIUM M1)
TH (THIRD BAND)
INCIDENT BEAM WAVELENGTH λ0
0
K OF PROPAGING BEAM IN THIRD BAND
BAND CORRESPONDING TO λ0
(MEDIUM M2)
DIRECTION OF REFRACTED BEAM

FIG.12

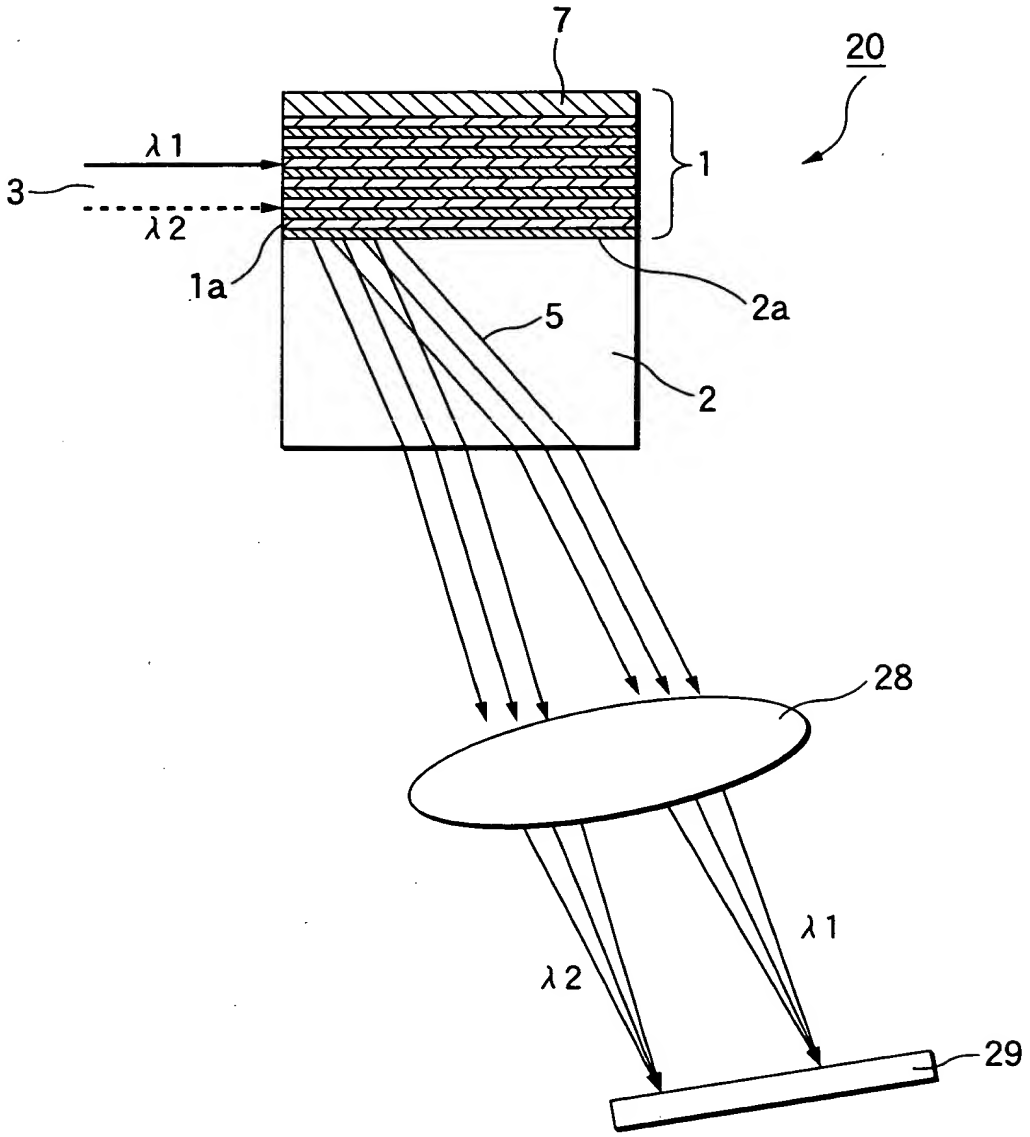


FIG.13

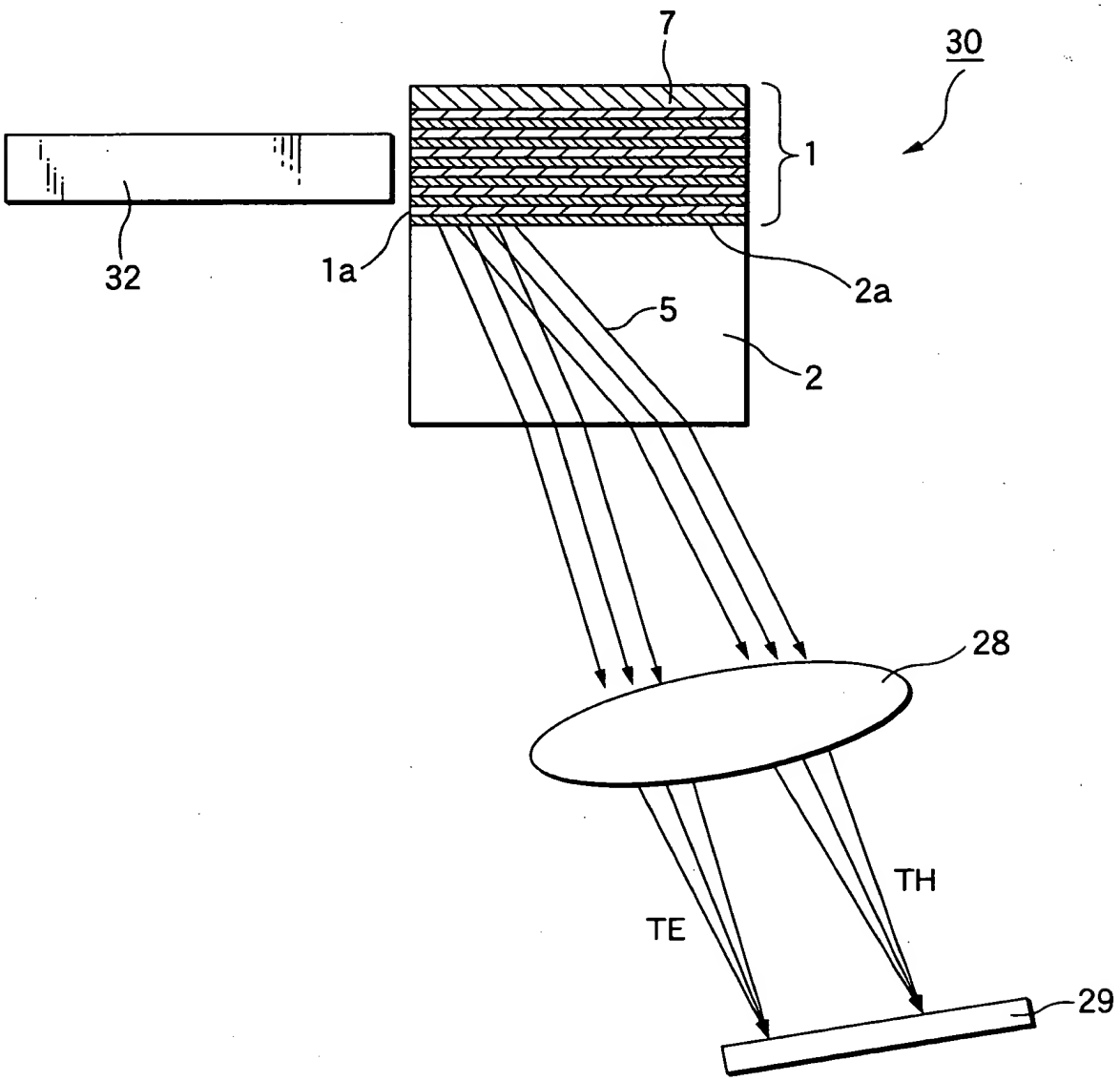


FIG.14

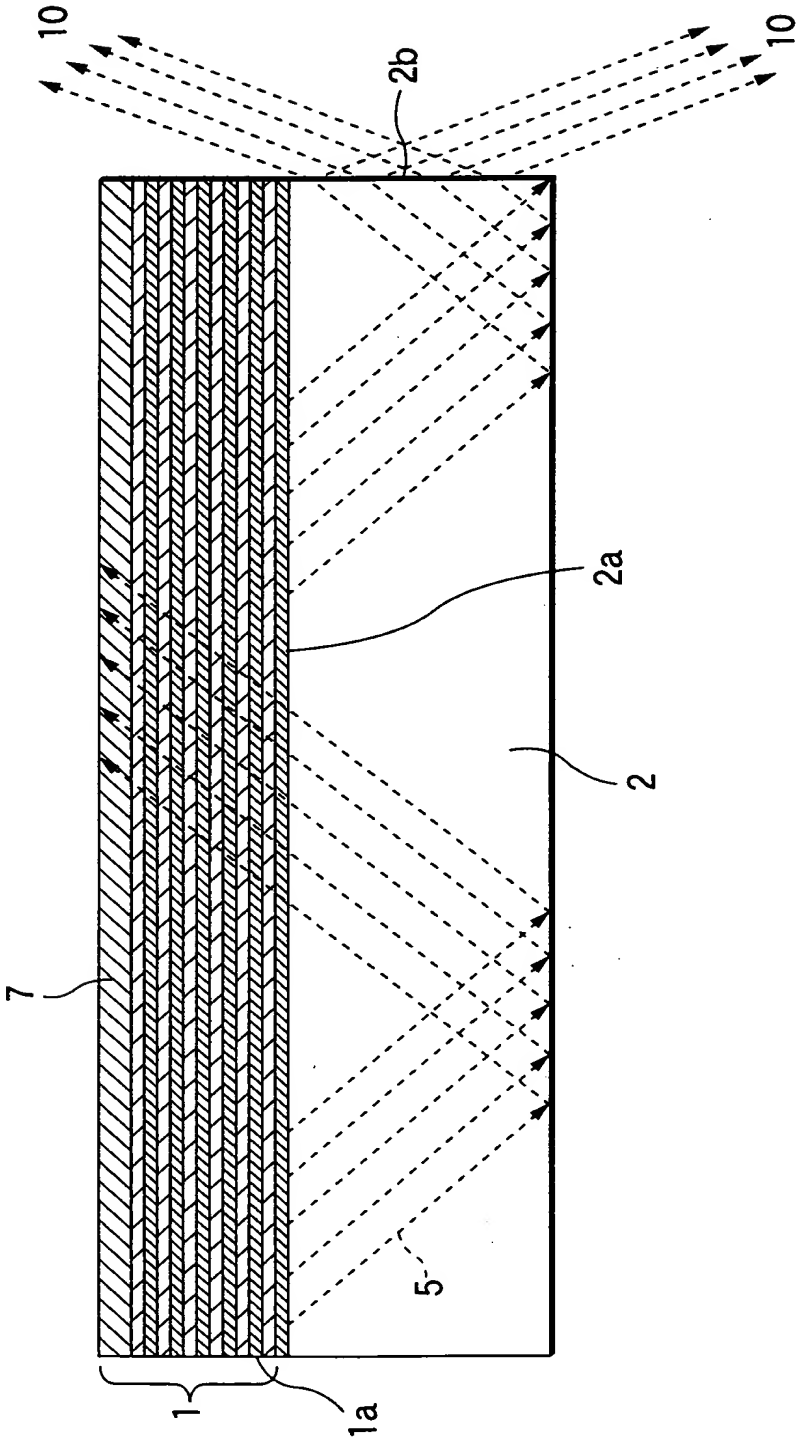


FIG.15

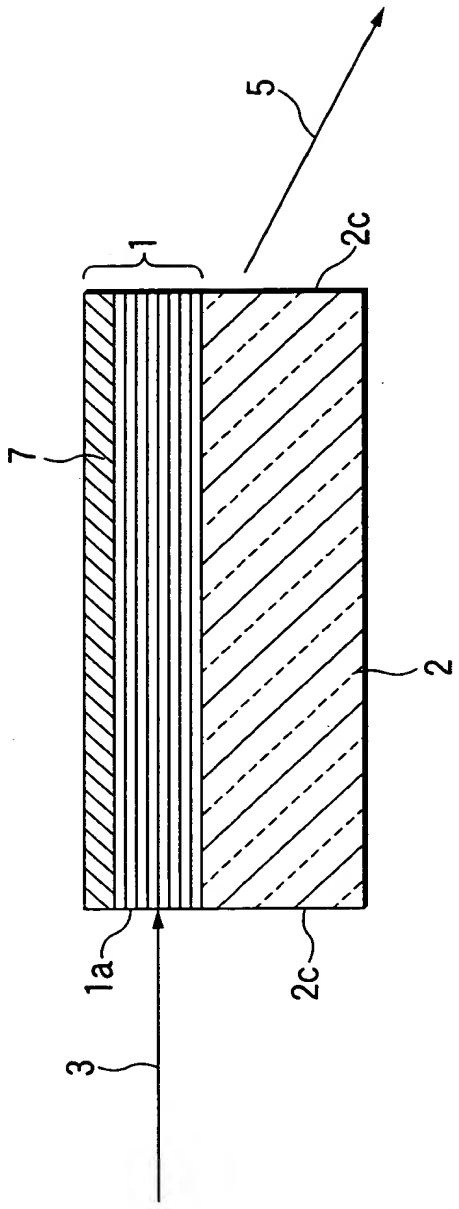


FIG.16

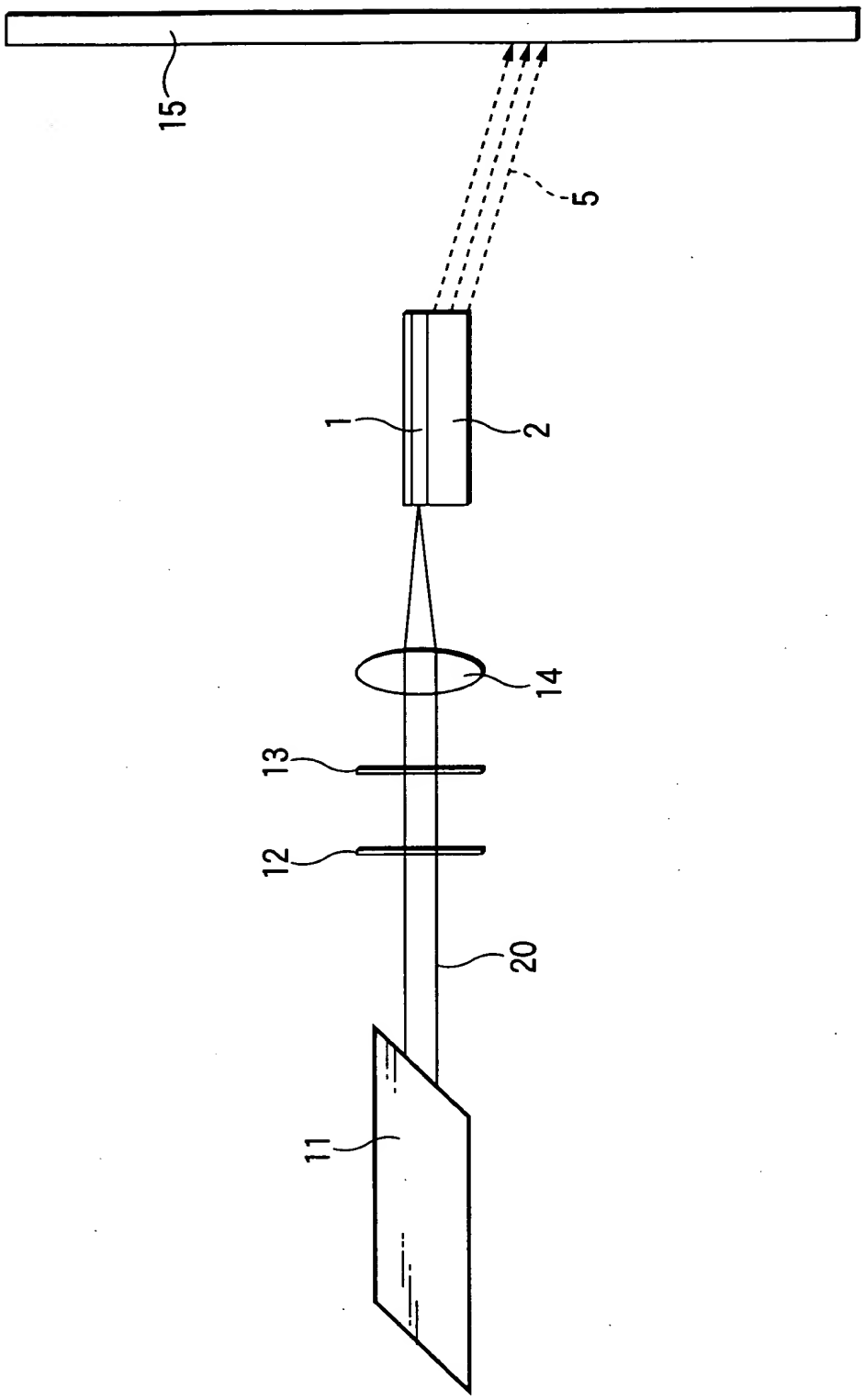


FIG.17

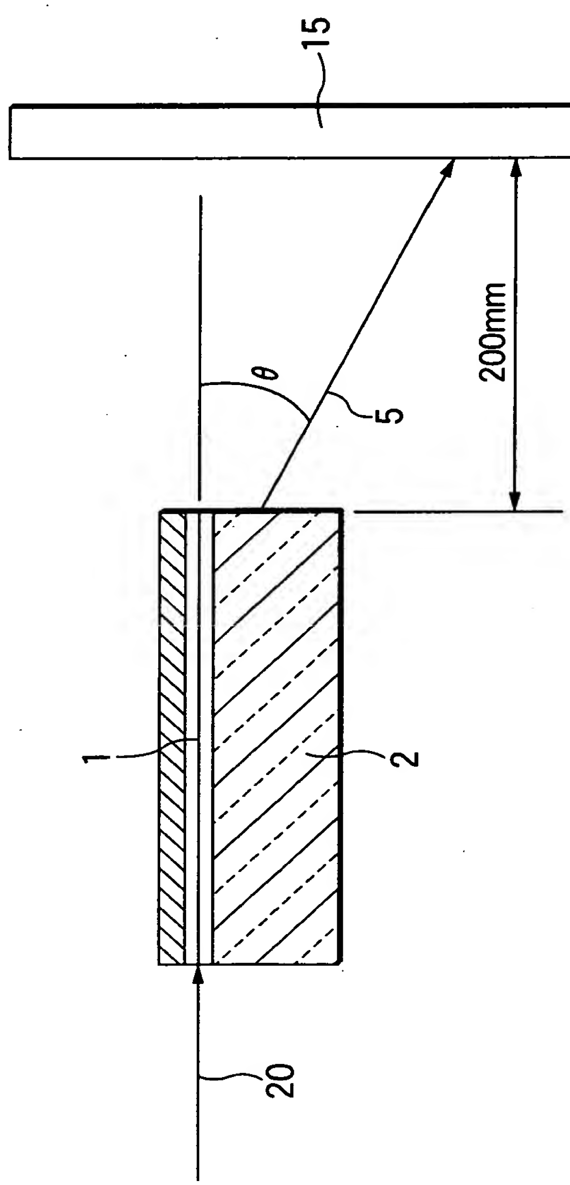


FIG.18

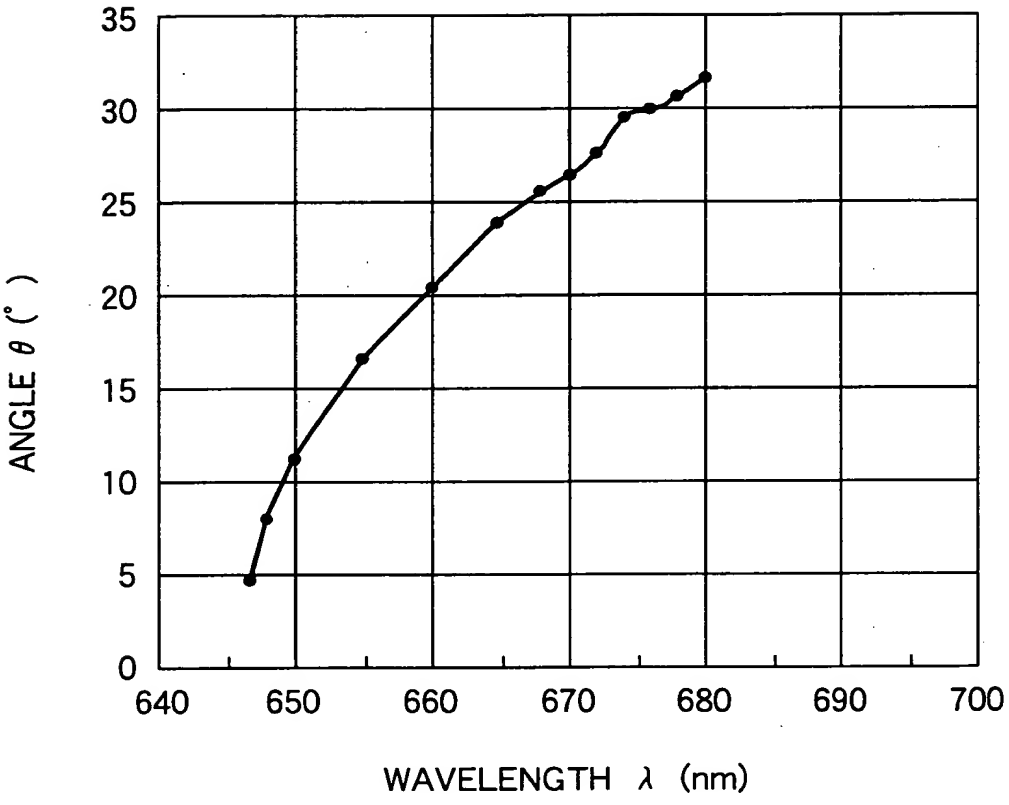


FIG.19

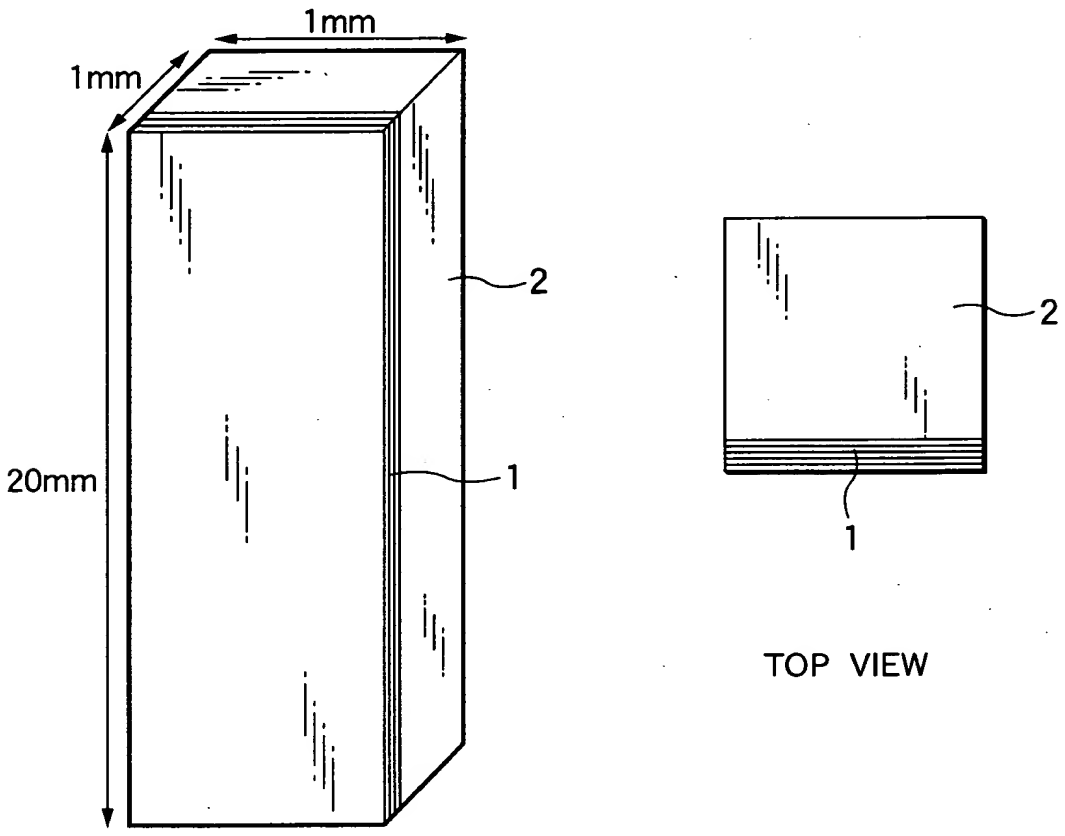


FIG.20

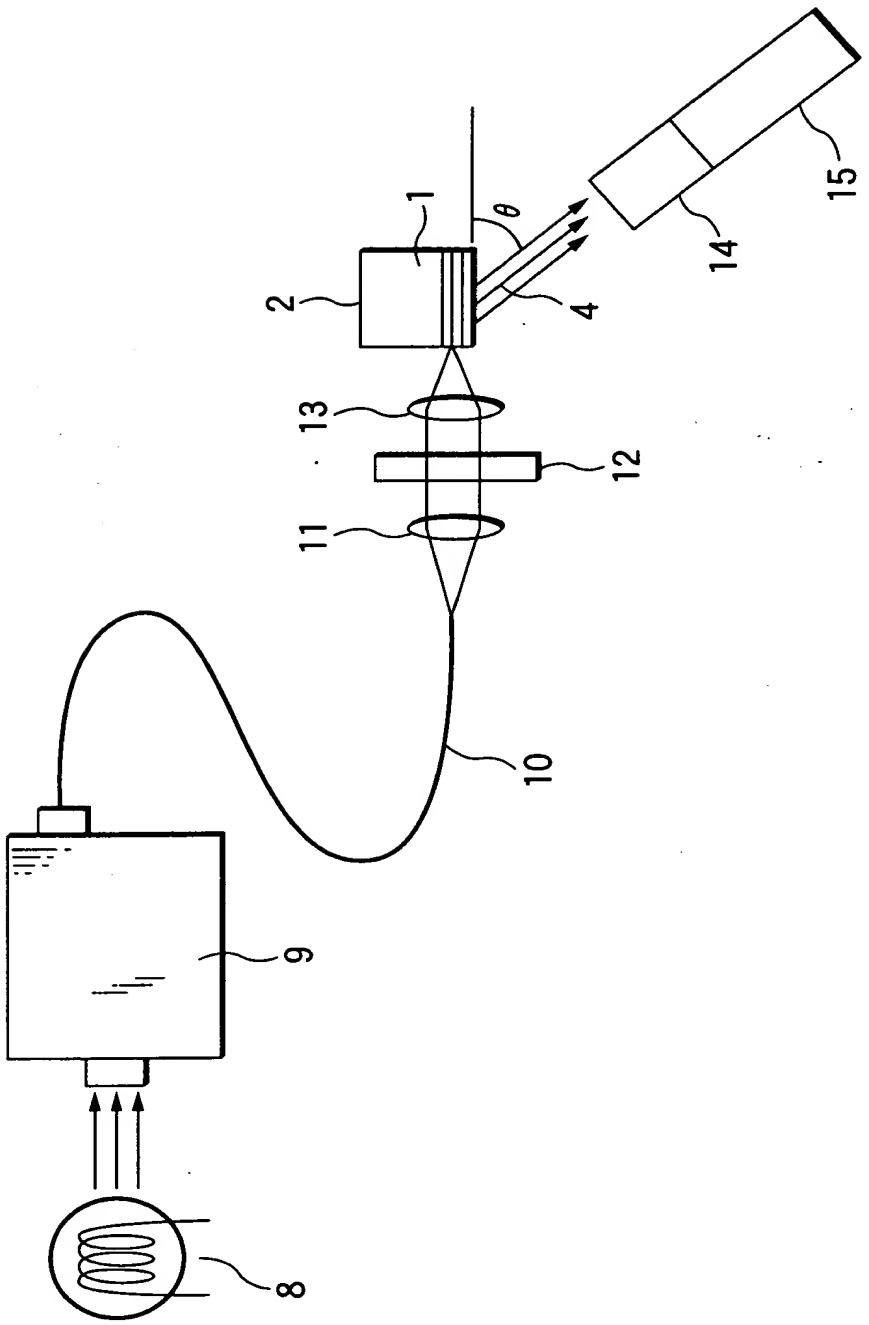


FIG.21

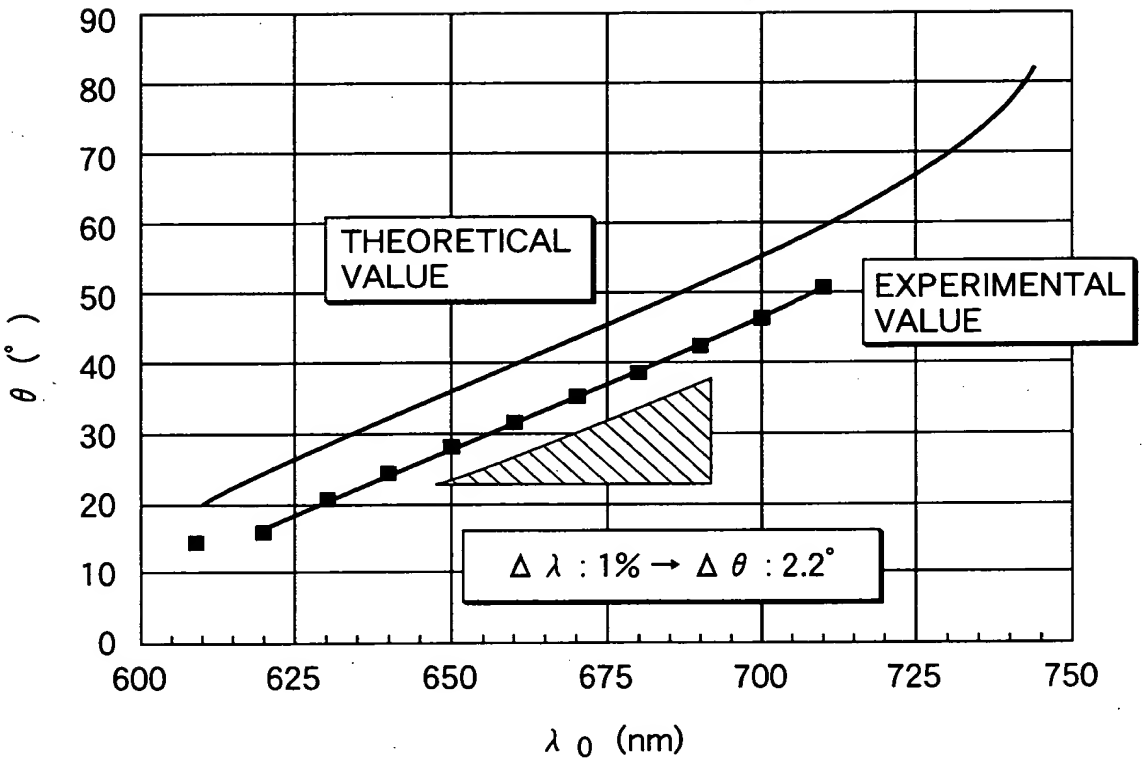

90
80
70
60
50
40
30
20
10
0
θ (°)
600
625
650
675
700
725
750
λ 0 (nm)
THEORETICAL VALUE
EXPERIMENTAL VALUE
Δ λ : 1% → Δ θ : 2.2°

FIG.22

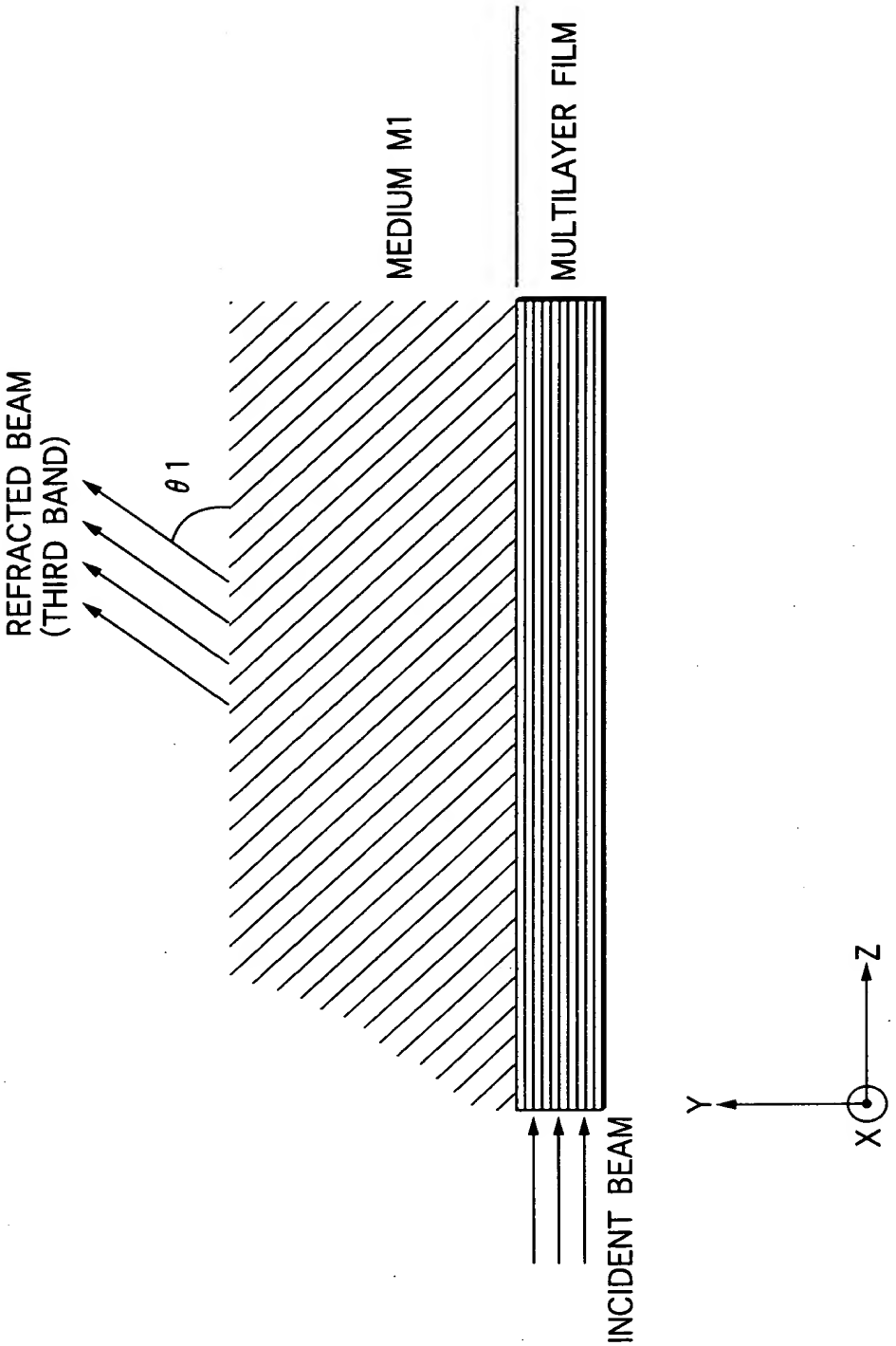

REFRACTED BEAM
(THIRD BAND)
θ1
MEDIUM M1
MULTILAYER FILM
INCIDENT BEAM
Y
Z
X

FIG.23

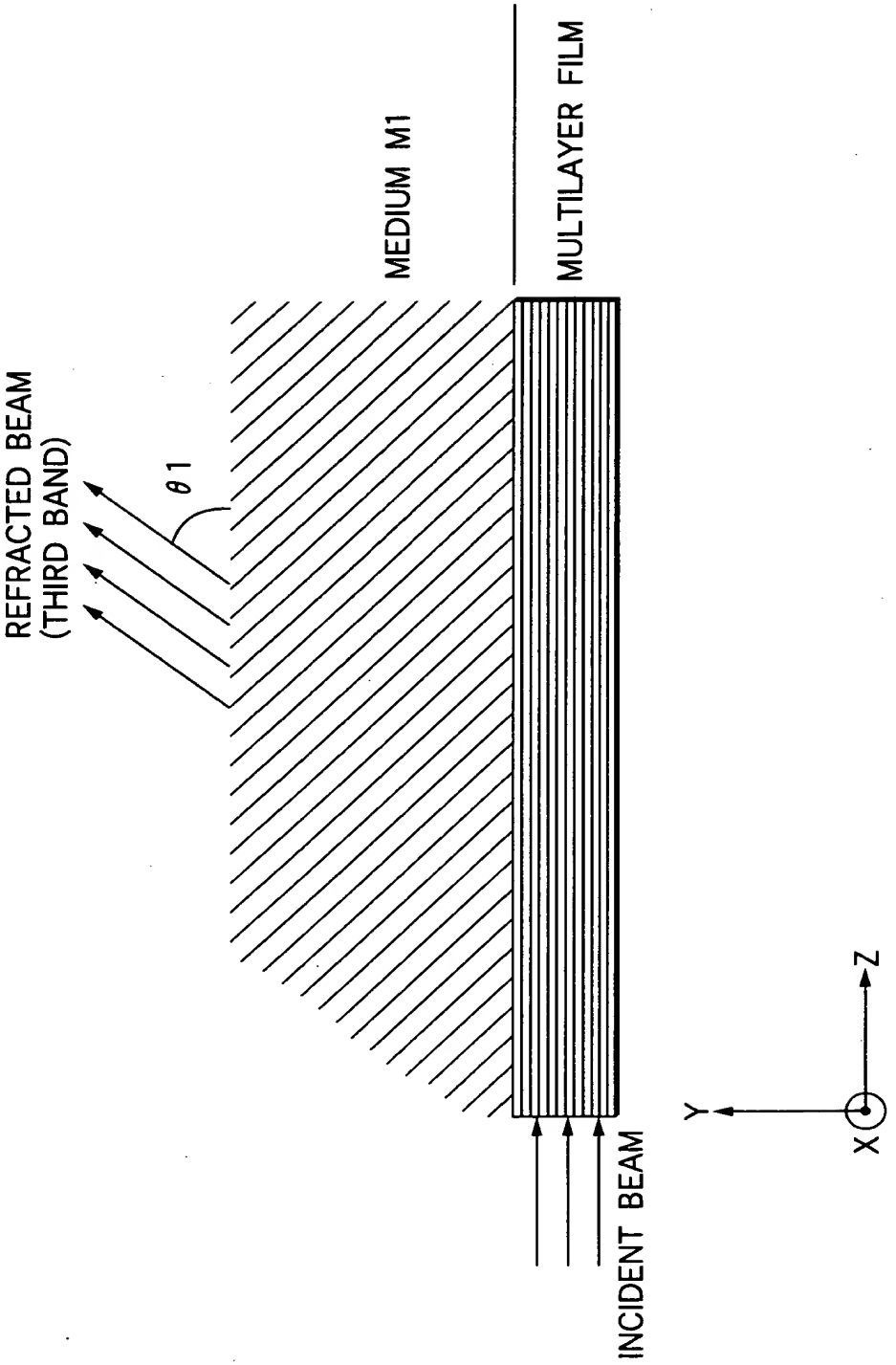

REFRACTED BEAM
(THIRD BAND)
θ1
MEDIUM M1
MULTILAYER FILM
INCIDENT BEAM
Y
Z
X

FIG.24

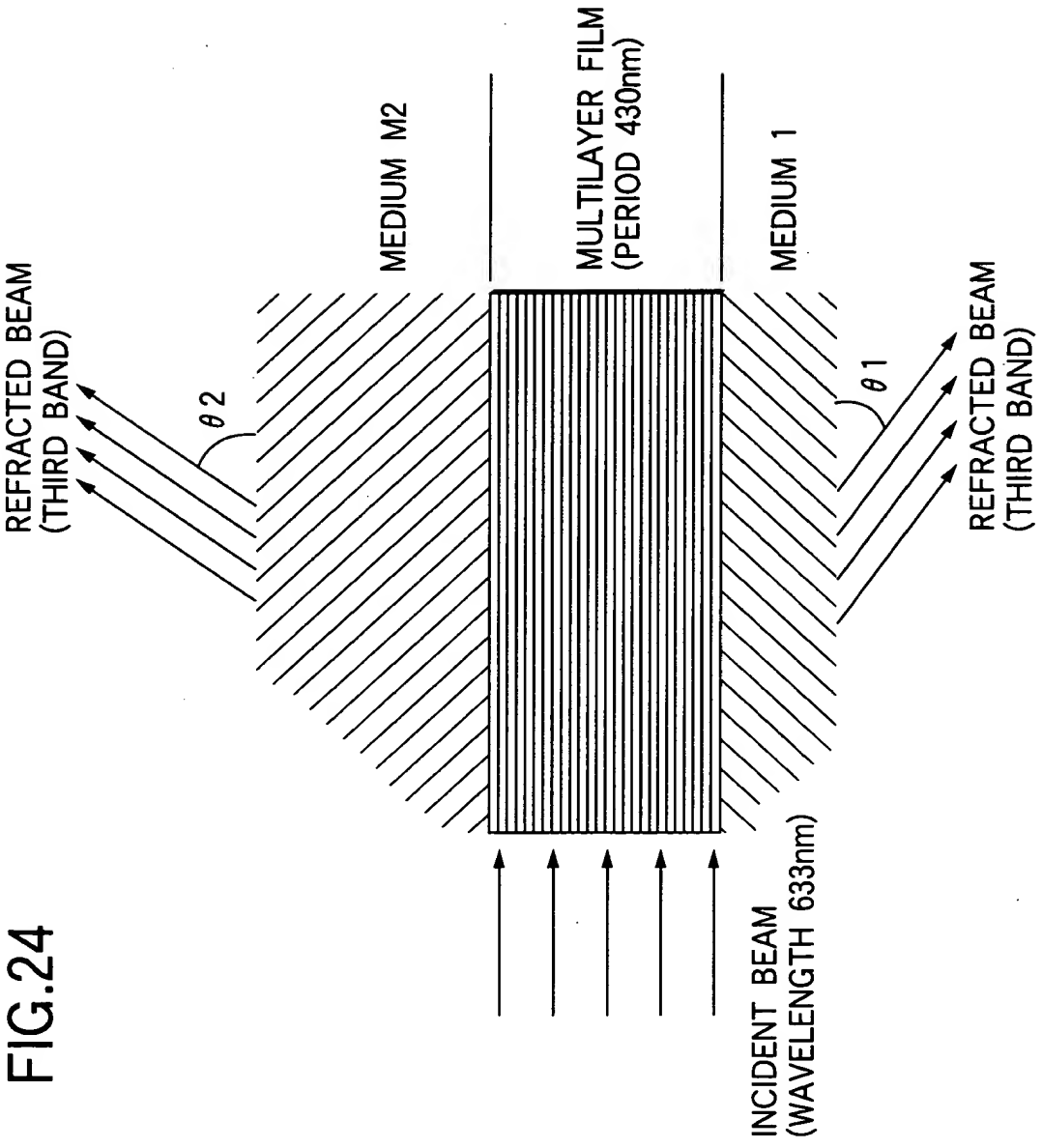

REFRACTED BEAM
(THIRD BAND)
θ2
MEDIUM M2
MULTILAYER FILM
(PERIOD 430nm)
MEDIUM 1
θ1
REFRACTED BEAM
(THIRD BAND)
INCIDENT BEAM
(WAVELENGTH 633nm)

FIG.25

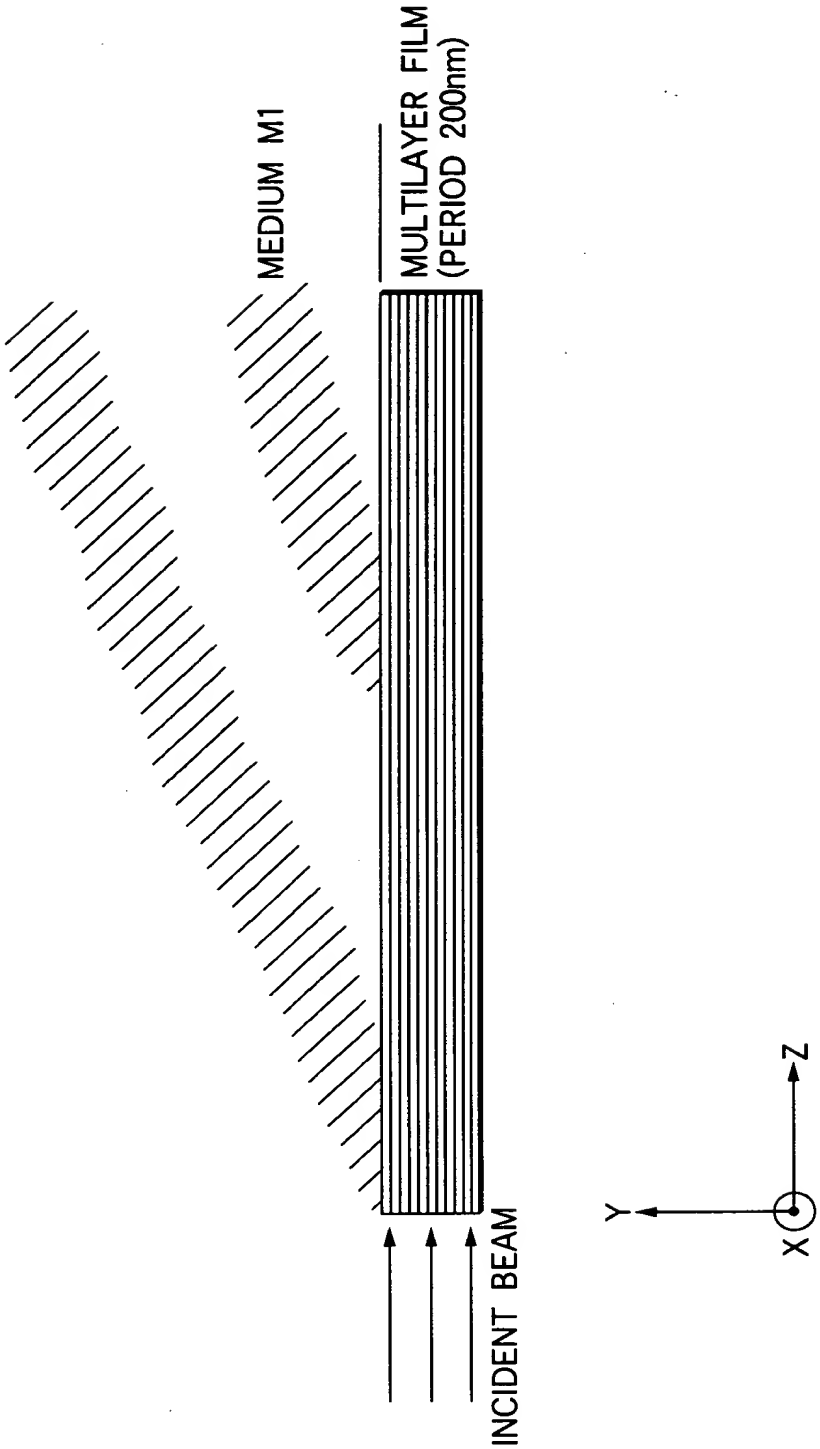


FIG.26